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EXAMINER

SHARP, JEFFREY ANDREW

ART UNIT	PAPER NUMBER
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3677

DATE MAILED: 07/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/708,928	<b>Applicant(s)</b> HINSON ET AL.	
	<b>Examiner</b> Jeffrey Sharp	<b>Art Unit</b> 3677	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 April 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-21 is/are pending in the application.
- 4a) Of the above claim(s) 13-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-12 and 19-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 May 2005 and 10 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

[1] This action is responsive to Applicant's remarks/amendment filed on 10 April 2006 with regard to the Official Office action mailed on 08 February 2006.

#### ***Status of Claims***

[2] Claims 1 and 3-21 are pending. Claim 2 is cancelled. Claims 13-18 are withdrawn from consideration.

#### ***Drawings***

[3] The drawings were previously objected for informalities, because the graphs were unclear. In view of Applicant's replacement drawing(s) submitted on 10 April 2006, all previous objections to the drawings have been withdrawn. Accordingly, the changes have been entered. There appears to be no issue of new matter.

#### ***Specification***

[4] The disclosure is currently objected to for informalities. Applicant has submitted new figures, each of which need to be described in the description of the drawings. It is suggested that Applicant change "Figure 3" and "Figure 4" to --Figures 3a-3f-- and --Figures 4a-4f--. Appropriate action is required.

***Response to Arguments/Remarks***

[5] Claims 1, 3, 4, 6- 9, 11, 12, and 20 were previously rejected under 35 U.S.C. 102(b) as being anticipated by JP 11050842. Claim 5 was previously rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11050842. Claims 10 and 21 were previously rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11050842 in view of Fonville US-6,591,801. Claim 19 was previously rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11050842 in view of Spies et al. US-5,624,099.

Applicant's arguments filed 10 April 2006 have been fully considered but they are not persuasive for at least the following reasons:

**Anticipation and obviousness over JP 11050842**

It appears Applicant tries to define claims 1 and 7 over the JP 11050842 reference by adding "while generally maintaining a seal therebetween". Firstly, the word "generally" brings question as to what structural requirements are necessary for a seal. Since the term "generally" is a definite term, this limitation has been treated, but treated broadly. The JP 11050842 reference teaches components of an engine (3a, 5), which "generally" facilitate a seal "between" components (1) and (2). Alternatively, one of ordinary skill in the art could consider take the position that the JP 11050842 reference teaches a fastener assembly that maintains a seal between components (1) and (2) via the interface between the radially outwardly projecting collar of the retention sleeve (between 3b and 2). Applicant fails to more precisely state that -- said at least two components being a valve cover and an engine block which directly contact each other--, which the Examiner would agree that JP 11050842 fails to expressly teach.

Art Unit: 3677

Applicant is reminded that claims in a pending application should be given their broadest reasonable interpretation. *In re Pearson*, 181 USPQ 641 (CCPA 1974).

As for Applicant's argument that the JP 11050842 reference fails to teach "a fastener assembly that acoustically decouples the components", but rather "teaches a bolt that couples an exhaust manifold cover and an exhaust manifold capable of sufficiently absorbing expansions and contractions caused by heat", it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987). In the instant case, one of ordinary skill in the art would appreciate that the fastener apparatus disclosed by JP 11050842 possesses the *inherent* capability of allowing each of the components (1) and (2) to vibrate at least substantially independently, facilitated by wave spring (6). This is because the wave spring (6) allows expansion and contraction between parts. Thus, components (1) and (2) of JP 11050842 are in a sense "acoustically decoupled". The examiner takes the position that if the fastening assembly taught by JP 11050842 is "capable of sufficiently absorbing expansions and contractions caused by heat", then it must also be --capable of sufficiently absorbing expansions and contraction caused by vibration (i.e., sound)--.

In response to Applicant's argument that the JP 11050842 is non-analogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, an exhaust manifold is located on an

Art Unit: 3677

engine (i.e., it may be reasonably construed as an "engine component"), and so is a valve cover. Therefore, the examiner takes the position that the fastening means taught by JP 11050842 is within the same field of applicant's endeavor.

In response to Applicant's argument that JP 11050842 does not teach a seal, because metal mesh component (5) will provide a leakage path through the connection, Applicant fails to precisely claim that --said seal prevents all air in between the valve cover and engine block from escaping to the atmosphere--, and therefore, this argument is not persuasive. Again, as stated above, the term "generally" has given much leeway to the scope of "seal".

In response to Applicant's request to furnish documentation supporting the official notice taken in the last office action, the examiner has provided the enclosed NPL "GlobalSpec", which would suggest that wave springs are made of metallic material. The enclosed reference also expressly states that a wave washer "prevents leakage", which would suggest that the JP 11050842 reference still anticipates the added limitation "while generally maintaining a seal therebetween".

**JP 11050842 in view of Fonville US-6,591,801**

In response to Applicant's argument that there would be no reason to combine JP 11050842 with Fonville '801, the examiner acknowledges Applicant's remark that "Fonville teaches a mounting for noise *isolation* and *sealing*". Therefore, even if, *arguendo*, JP 11050842 fails to disclose the "generally maintaining a seal" limitation as Applicant argues, Fonville would suggest it. Enclosed NPL states that wave springs serve to "*isolate*". If "Fonville teaches a solution to the problem that is complete with no features lacking" and is located "in between the

Art Unit: 3677

valve cover and engine block", as Applicant states on top of page 10, then Examiner sees no reason why Fonville would not consider a mere substitution of the "isolation" component (34) for the "isolation" component taught by JP 11050842, since wave springs are also known to "isolate". In a rejection under 35 U.S.C. 103(a), the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. *In re Keller*, 642 F. 2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). In this regard, a conclusion of obviousness may be based on common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference. *In re Bozek*, 416 F. 2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969).

In response to Applicant's statement that the provided motivations of better service life, reduction of isolator wear, suspension of the valve cover in a freely vibrating manner, and preventing transmission of solid-borne sound are not expressly shown in JP 11050842 or Fonville, one of ordinary skill in the art would instantly appreciate these motivations as inherent, as evidenced by cited US-5,624,099 to Spies et al., lines bridging columns 3 and 4.

That said, all arguments drawn to this rejection are moot in view of the following new grounds of rejection.

Art Unit: 3677

**JP 11050842 in view of Spies et al US-5,624,099.**

As for Applicant's argument that JP 11050842 in view of Spies et al. would not suggest the limitations of claim 19, because "the proposed combination would not *acoustically decouple the components while generally maintaining a seal therebetween*", Examiner would like to clearly point out that claim 1 of the Spies et al. reference incorporates both vibrational (i.e., acoustic) decouplement and sealing between two engine components.

That said, all arguments drawn to this rejection are moot in view of the following new grounds of rejection.

***New Grounds of Rejection Necessitated by Amendment***

***Claim Rejections - 35 USC § 102***

[6] The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent

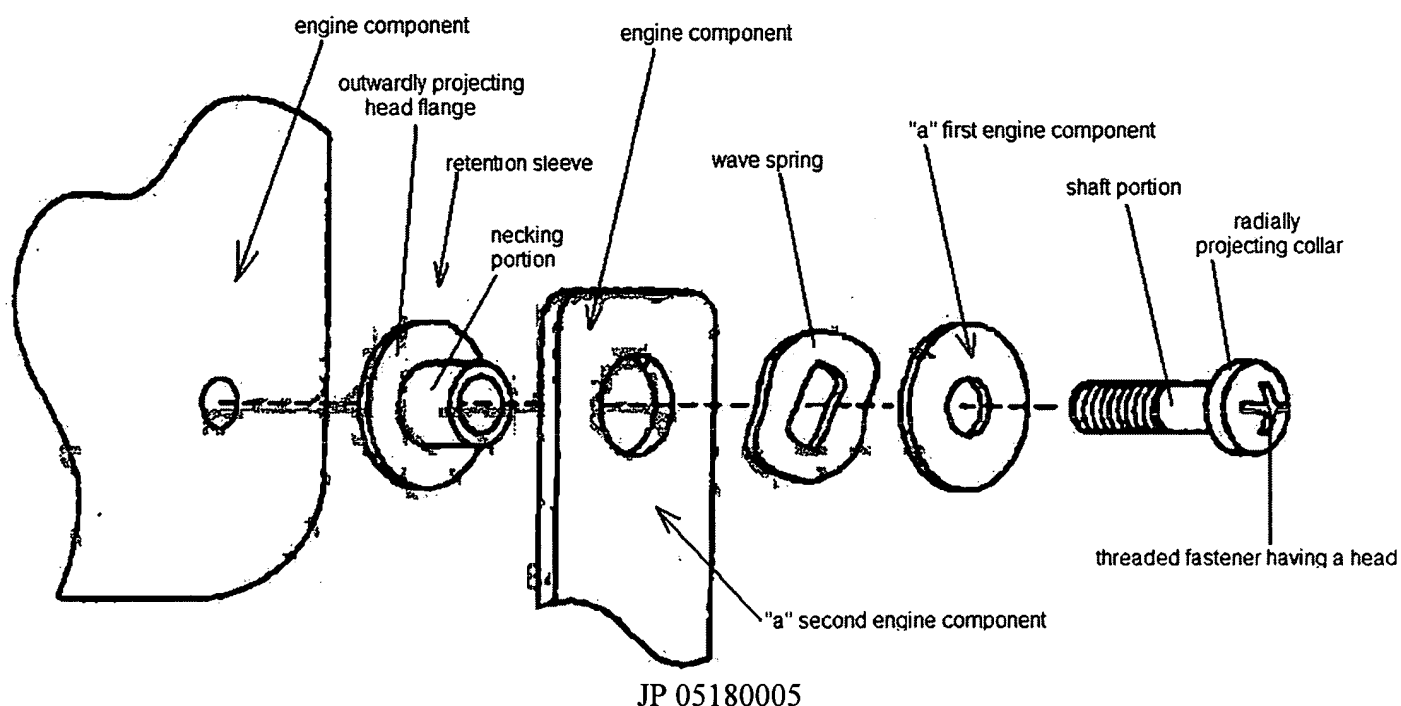
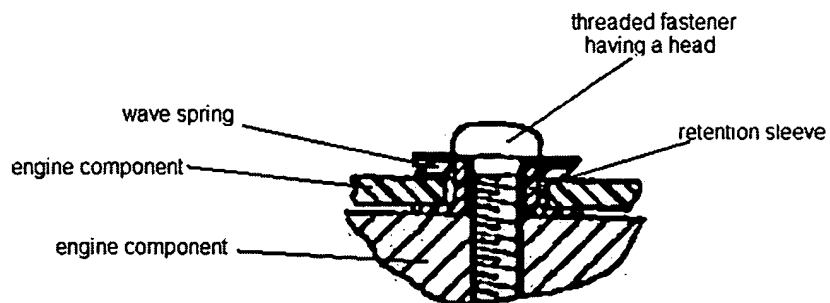
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

[7] Claims 1, 3-9, 11, 12, and 20 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by, JP 05180005. See annotated drawing below. The fastener assembly taught by JP 05180005 "generally" forms a seal between engine components (3) and (10).



\*Retention sleeve of JP 05180005 extends at least partially through a first engine component, and a second engine component.



### *Claim Rejections - 35 USC § 103*

[8] The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3677

[9] Claims 1, 3, 4, 6-9, 11, 12, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by, or in the alternative, under 35 U.S.C. 103(a) as being obvious over JP 11050842.

In short, JP 11050842 teaches a fastener assembly for connecting two components (1,2) of an engine, said assembly comprising:

a threaded fastener(s) (4) having a head portion with radially projecting collar (unlabeled),

a retention sleeve (3) disposed about said fastener having an outwardly projecting head flange (3b), and having a necking portion extending away from the flange portion which is of smaller diameter than said projecting head flange; said retention sleeve extending at least partially into an aperture formed in a first engine component (1,3a,5), and

a wave spring(s) (6) disposed about the retention sleeve which has an inner diameter slightly larger than an outer diameter of the retention sleeve, said wave spring abutting the retention sleeve such that it is "selectively" prevented from being fully compressed (shown clearly in drawing);

wherein the fastener assembly "generally" maintains a seal between said two components (1,2).

\*Pertinent to claims 11 and 12, Figure 2 of JP 11050842 shows multiple fasteners and wave springs to acoustically decouple two engine components.

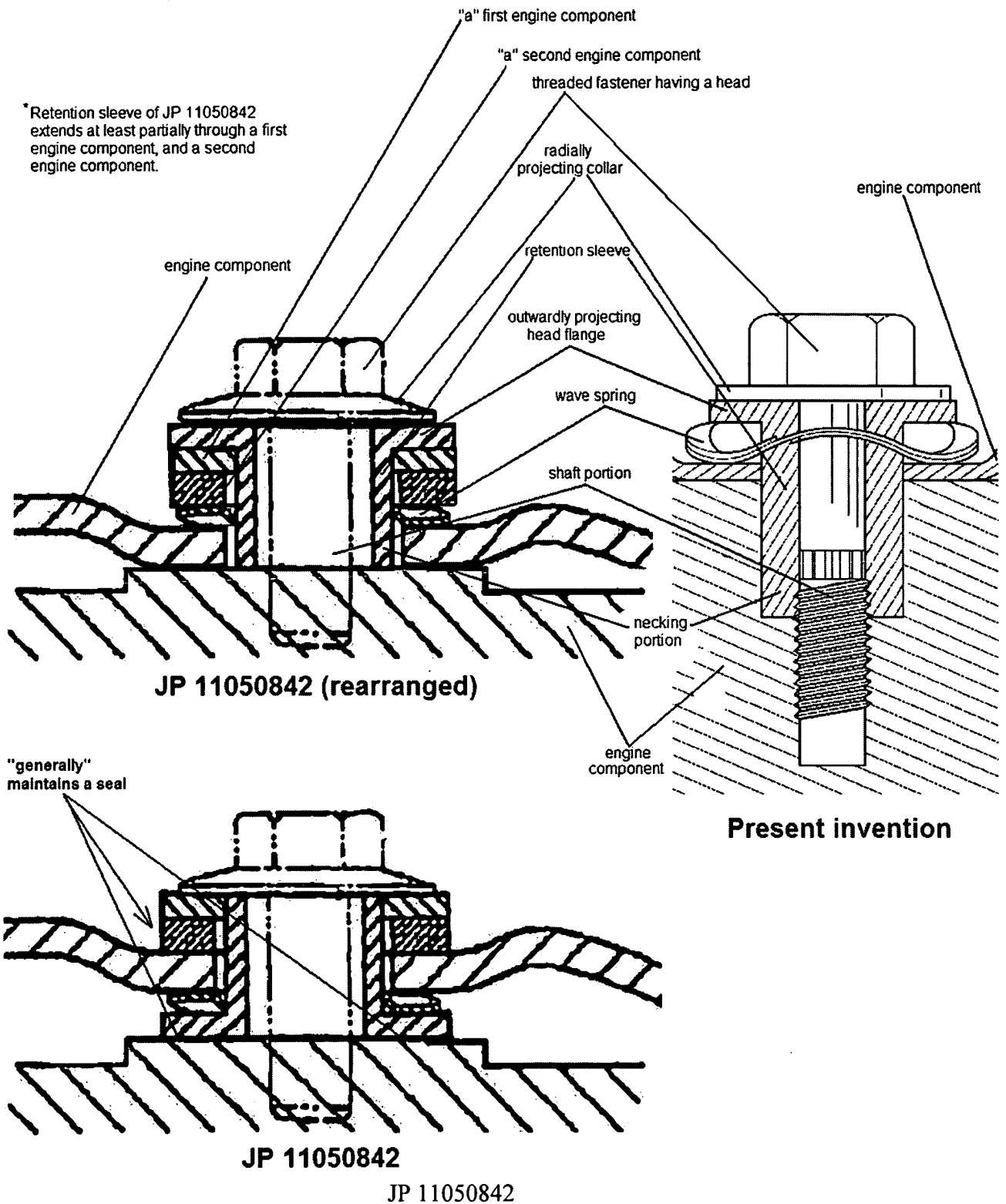
In claim 8, Applicant does not positively state whether or not "a first engine component" or "a second engine component" is further limiting "at least two components of an engine" shown in the preamble of claim 1, or if the limitations "a first engine component" and "a second engine component" suggest components not associated with the "at least two components of an

Art Unit: 3677

engine". Therefore, JP 11050842 shows in its broadest reasonable interpretation, "at least a portion of the retention sleeve selectively extends at least partially into an aperture formed in a first engine component (3a)" and "at least a portion of said retention sleeve selectively extends at least partially into an aperture formed in a second engine component (5)".

As for the limitation "while generally maintaining a seal therebetween", Applicant does not positively claim that the "seal" of the present invention comprises --contact between the valve cover and engine block--. Even if this were the case, it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70. See also, *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975).

Art Unit: 3677



[10] Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11050842 in view of the old and well-known.

In short, JP 11050842 teaches or at least suggests each and every limitation found in claim 1.

However, the English translation abstract of JP 11050842 appears to be silent as what material the assembly parts are manufactured from (herein, "metallic material").

It is generally accepted and well-known within the art that spring washers are made of metallic material, and that almost all bolts are made of metallic material (especially those used to secure valve covers to engine blocks), and that components in extreme heat environments full of high stresses such as engines are made from metallic materials.

Therefore, at the time of invention, it would have been obvious to one of ordinary skill in the art, to make the fastener assembly components taught by JP 11050842 from a metallic material, as it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. It is also common knowledge to choose a material that has sufficient strength, durability, flexibility, hardness, etc. for the application and intended use of that material. In the instant case, it would be readily appreciated by those of ordinary skill in the art, to make engine components subjected to heat and stress from a metallic material for obvious reasons.

[11] Claims 10, 19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11050842 in view of Schmidt, Jr. US-5,711,711.

Art Unit: 3677

In short, JP 11050842 teaches each and every limitation found in claims 1, 3, 4, 6- 9, 11, 12, and 20, including the inherent acoustic decouplement of at least two engine components (1,2);

However, the JP 11050842 fails to disclose expressly, at least one of the engine components to be a valve cover, and also fails to mention the retention sleeve having an inner diameter smaller than the outer diameter of the shaft.

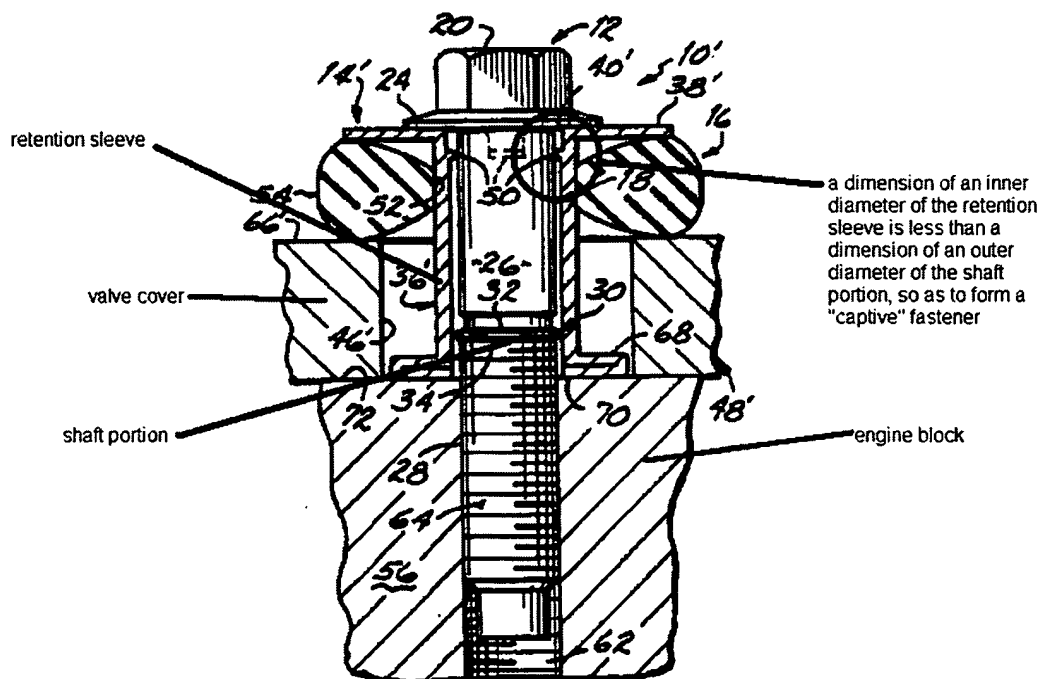
Schmidt, Jr. suggests a fastener assembly for mounting an upper workpiece to a lower workpiece, and mentions an application where it could be advantageously used to mount a valve cover to an engine block. This would suggest to one of ordinary skill that fastener assemblies, in general, could be used to join valve covers and engine blocks as an *intended use* of the fastener assembly.

Therefore, it would have been obvious to one of ordinary skill in the art, to employ the fastening assembly taught by JP 11050842 in between a valve cover and engine block as suggested by Schmidt, Jr., in order to "sufficiently absorb expansions and contractions caused by heat" between a valve cover and engine block. This would be an especially advantageous intended use, when the valve cover is made of a plastics material, which would expand and contract differently than an engine block. Note that it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham, 2 USPQ2d 1647 (1987)*. In the instant case, Applicant is claiming a fastener apparatus "for coupling at least two automotive components" (intended use), and is not positively claiming "a valve cover assembly comprising" in the preamble.

Art Unit: 3677

Schmidt, Jr. also suggests a retention sleeve having an inner diameter smaller than an outer diameter of the threaded fastener shaft, in order to keep the two parts from separation. One of ordinary skill in the art would further appreciate that this fastener "sub-assembly" may also help reduce manufacturing costs, reduce assembly time, and prevent inadvertent loss of the bolt(s) when the valve cover is taken off. It has been held to be within the general skill of a worker in the art to make plural parts unitary as a matter of obvious choice. *In re Larson*, 144 USPQ 347 (CCPA 1965); *In re Lockart*, 90 USPQ 214 (CCPA 1951).

Therefore, at the time of invention, it would have been obvious to one of ordinary skill in the art, to modify the respective diameters of the fastener shaft and retention sleeve taught by JP 11050842 such that the retention sleeve has an inner diameter smaller than that of the fastener shaft as suggested by Schmidt, Jr., in order to achieve any or all of the abovementioned advantages.



Schmidt, Jr. US-5,711,711

Art Unit: 3677

[12] Claims 10, 19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 05180005 in view of Schmidt, Jr. US-5,711,711.

In short, JP 05180005 discloses a fastener element having each and every limitation disclosed in claims 1, 3-9, 11, 12, and 20 as discussed above.

However, JP 05180005 fails to disclose expressly, one of the two automotive components to be a valve cover, and also fails to suggest that a dimension of an inner diameter of the retention sleeve is less than a dimension of an outer diameter of the shaft portion.

Schmidt, Jr. suggests a fastener assembly for mounting an upper workpiece to a lower workpiece, and mentions an application where it could be advantageously used to mount a valve cover to an engine block. This would suggest to one of ordinary skill that fastener assemblies, in general, could be used to join valve covers and engine blocks as an *intended use*.

Therefore, it would have been obvious to one of ordinary skill in the art, to employ the fastening assembly taught by JP 11050842 in between a valve cover and engine block as suggested by Schmidt, Jr., in order to "sufficiently absorb expansions and contractions caused by heat" between a valve cover and engine block, especially when the valve cover is made of a plastics material, which would expand and contract differently than an engine block. Note that it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham, 2 USPQ2d 1647 (1987)*. In the instant case, Applicant is claiming a fastener apparatus "*for coupling at least two automotive components*" (intended use), and is not positively claiming "a valve cover assembly comprising" in the preamble.



Art Unit: 3677

Schmidt, Jr. also suggests a retention sleeve having an inner diameter smaller than an outer diameter of the fastener shaft, in order to keep the two parts from separation. One of ordinary skill in the art would further appreciate that this fastener "sub-assembly" may also help reduce manufacturing costs, reduce assembly time, and prevent inadvertent loss of the bolt. It has been held to be within the general skill of a worker in the art to make plural parts unitary as a matter of obvious engineering choice. *In re Larson*, 144 USPQ 347 (CCPA 1965); *In re Lockart*, 90 USPQ 214 (CCPA 1951).

Therefore, at the time of invention, it would have been obvious to one of ordinary skill in the art, to modify the respective diameters of the fastener shaft and retention sleeve taught by JP 11050842 such that the retention sleeve has an inner diameter smaller than that of the fastener shaft as suggested by Schmidt, Jr., in order to achieve any or all of the abovementioned advantages.

### ***Conclusion***

[13] The new prior art made of record and not relied upon is considered pertinent to applicant's disclosure is as follows:

**See form PTO-892**

**US-2006/0018731 A1**

**NPL GlobalSpec**

Art Unit: 3677

[14] Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

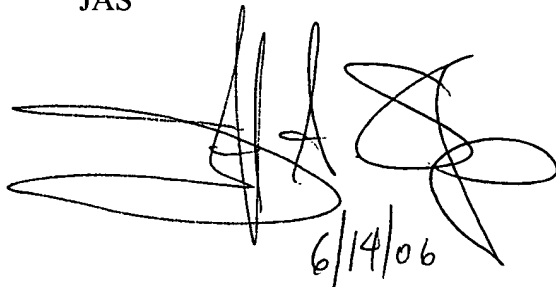
[15] Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Sharp whose telephone number is (571) 272-7074. The examiner can normally be reached 7:00 am - 5:30 pm Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J.J. Swann can be reached on (571) 272-7075. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3677

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JAS



6/14/06



ROBERT J. SANDY  
PRIMARY EXAMINER